

# Root Vegetables

Fall/Winter

## SUGGESTED SCHEDULE

Week 1: Up, Down, and Around

Week 2 : Harvesting Roots

Week 3 : Vegetable Collage

Optional Activities

## BOOKS

*Up, Down, and Around* by Katherine Ayres

*Gathering the Sun: An Alphabet In Spanish and English*  
by Alma de Ada

## NEWSLETTERS

For families

For teachers



Urban & Environmental  
Policy Institute  
OCCIDENTAL COLLEGE



# Root Vegetables

## Week 1: Up, Down, and Around

### MATERIALS

- *Up, Down, and Around* by Katherine Ayres
- Fresh Fruit and Vegetable Photo Cards
- Food Experience Ingredients

### LEARNING STANDARDS

#### Head Start Learning Domains

- Language Development (Receptive, Expressive)
- Literacy Knowledge and Skills (Book Appreciation & Knowledge, Phonological Awareness, Alphabet Knowledge, Print Concepts & Conventions)
- Logic and Reasoning (Reasoning & Problem Solving, Symbolic Representation)
- Mathematics and Knowledge Skills (Number Concepts & Quantities, Geometry & Spatial Sense, Measurement & Comparison)
- Social Science Knowledge and Skills (Self, Family and Community, People & the Environment, History & Events)
- Social and Emotional Development (Social Relationships, Self-Concept & Self-Efficacy, Self-Regulation, Emotional & Behavioral Health)
- Approaches to Learning (Initiative & Curiosity, Persistence & Attentiveness, Cooperation)
- Creative Arts Expression (Music, Creative Movement & Dance, Art, Drama)
- English Language Development (Receptive, Expressive, Engagement in English Literacy Activities)

#### DRDP-2015

- Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG6
- Social and Emotional Development; SED1, SED3, SED4
- Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD5
- English Language Development; ELD1, ELD2, ELD3, ELD4
- Cognition-Math and Science; COG9, COG11
- History-Social Science; HSS2, HSS5

### LESSON

- 1) Show the class a couple of pictures of root vegetables (for example: carrots and beets). Tell the children we are going to learn about root vegetables this month. They are called root vegetables because they are both plants that we eat their roots.
- 2) Read *Up, Down, and Around*. Identify the root vegetables with the students in the story: carrots, potatoes, beets, onions. Show photos of these vegetables with the Fresh Fruit and Vegetable Photo Cards.
- 3) Explain to the students that today we will be tasting different kinds or varieties of root vegetables.
- 4) Show the children the different varieties, noting colors and size. Identify the farm they were grown on if you know.
- 5) Ask if they have eaten any of these vegetables? How did they eat them— cooked, in a soup, raw (not cooked), etc.?
- 6) Ask the children if they think root vegetables are a healthy choice for a snack. Explain that they make a healthy snack because they help your bones grow strong, help your eyes see and give you energy to play.
- 7) Ask the children to name another fruit or vegetable of the same colors, shape or size.
- 8) Place at least one slice of each root vegetables on each child's plate.
- 9) With the students compare what each root vegetable looks like on the outside and inside. Are they the same color?
- 10) Next, explain that we will taste the different types of root vegetables but that whenever we eat, we first need to wash our hands.
- 11) In small groups, have the students wash their hands.
- 12) As a group or in small groups, taste one root vegetable at a time. Discuss the similarities and differences: taste (which one is the sweetest?), smell (which one smells the best? What does it smell like?), color, and texture (soft, crunchy, mushy?) of the vegetable.
- 13) Refer to **Conducting an In-Class Taste Test** for more ideas on how to engage the class. Have students put a sticker on either the "I Like This" or "I Don't Like This Yet" columns of the taste test sheet, or have them write or initial their names if they are able to do so.
- 14) Have students share with the class which was their favorite root vegetable. You can keep a tally and let the class know which was the most popular vegetable.

Students will...

- \* taste different vegetables from the story in their Food Experience.
- \* identify root vegetables that grow under the ground and vegetables that grow above ground.



# Root Vegetables

## Week 2: Harvesting Vegetables

### MATERIALS

- ☐ *Gathering the Sun: An Alphabet In Spanish And English* by Alma de Ada

Props: such as:

- ☐ play money
- ☐ pretend vegetables
- ☐ Apron
- ☐ Hat
- ☐ steering wheel
- ☐ shopping bag

### LEARNING STANDARDS

#### Head Start Learning Domains

- Language Development (Receptive, Expressive)
- Literacy Knowledge and Skills (Book Appreciation & Knowledge, Phonological Awareness, Alphabet Knowledge, Print Concepts & Conventions, Early Writing)
- Logic and Reasoning (Reasoning & Problem Solving, Symbolic Representation)
- Mathematics Knowledge and Skills (Number Concepts & Quantities, Number Relationships & Operations, Geometry & Spatial Sense, Patterns, Measurement & Comparison)
- Approaches to Learning (Initiative & Curiosity, Persistence & Attentiveness, Cooperation)
- Creative Arts Expressions (Music, Creative Movement & Dance, Art, Drama)
- Physical Development and Health (Physical Health Status, Health Knowledge & Practice, Gross Motor Skills, Fine Motor Skills)
- English Language Development (Receptive, Expressive, Engagement in English Literacy Activity)

#### DRDP-2015

- Social and Emotional Development; SED1, SED3, SED4, SED5
- Language and Literacy Development; LLD1, LLD3, LLD4, LLD6, LLD7,
- English Language Development; ELD1, ELD2, ELD3
- History-Social Science; HSS2, HSS5
- Visual and Performing Arts; VPA3

### LESSON

- 1) Read selected pages from *Gathering the Sun: An Alphabet In Spanish And English*. Be sure to include “trees,” “beet,” “thanks,” “honor,” “island,” “garden,” “pride,” “farm workers,” and “carrot.”
- 2) Explain that in a garden, the gardener harvests the fruits and vegetables. Ask the children, how do fruits and vegetables get harvested on a farm (which is much larger than a garden)? Show the pages in *Gathering the Sun* showing the beets being harvested (pgs 2-3) and the page for carrot (pgs 36-37). Discuss farm workers and the hard work they do to bring food from a farm to our stores.
- 3) Ask for 4 student volunteers to build a simple food system. A food system is how we get food from the farm to some place where we will eat it.
- 4) Each child will act out the following characters:
  1. Farmer (wear the hat)
  2. Truck driver (the steering wheel)
  3. Storekeeper (apron)
  4. Customer (shopping bag).
- 5) First a farmer/farm worker, picks the vegetables and takes the vegetables to the truck driver, who pays for the vegetables and takes the vegetables to a store, where the store keeper buys the vegetables – then a customer buys the vegetables from the store keeper. We are all part of the food system!

Students will...

- \* describe how to harvest a root vegetable and how a root vegetable grows.
- \* understand what a farm worker does to harvest vegetables.
- \* act out farmers/farm workers to describe how vegetables get from the farm to the store.



# Root Vegetables

## Week 3: Vegetable Collage

### MATERIALS

- Butcher paper or construction paper
- Glue or glue sticks
- Scissors
- Magazines and advertisements for veg

### LEARNING STANDARDS

#### Head Start Learning Domains

-Language Development (Receptive, Expressive)

-Literacy Knowledge and Skills (Book Appreciation & Knowledge, Phonological Awareness, Alphabet Knowledge, Print Concepts & Conventions, Early Writing)

-Science Knowledge and Skills (Science Knowledge & Skills, Conceptual Knowledge of the Natural & Physical World)

-Mathematics Knowledge and Skills (Number Concepts & Quantities, Number Relationships & Operations, Geometry & Spatial Sense, Patterns, Measurement & Comparison)

-Physical Development and Health (Physical Health Status, Health Knowledge & Practice, Gross Motor Skills, Fine Motor Skills)

-English Language Development (Receptive, Expressive, Engagement in English Literacy Activities)

#### DRDP-PS

-Approaches to learning-Self Regulation; ATL-REG1, ATL-REG7

-Social and Emotional Development; SED1, SED3, SED4

-Language and Literacy Development; LLD1, LLD2, LLD3

-English Language Development; ELD1, ELD2, ELD3,

-Cognition-Math and science; COG2, COG4, COG11

-Physical Development-Health; PD-HLTH4, PD-HLTH10

History-Social Science;HSS5

### LESSON

- 1) Ask the students if they should only eat red vegetables? Green? NO! They should eat a rainbow. Hold up some of the Fresh Fruit and Vegetable Photo Cards to give some examples of the variety of colors.
- 2) Explain to the students that the class is going to make a collage to see if we can get as many colors as possible of fresh fruits and vegetables. Ask students to name different colors and write them up on the butcher paper.
- 3) Next, with the help of an adult, the students will cut out 4-6 pictures of vegetables. If they need help remembering what a vegetable is - remind them. Help them to also identify vegetables that are ROOTS.\*
- 4) Have the children match the colors up with the colors on the chart on the butcher paper. Discuss how many are in each color.

\* You may also add fruits to your collage if the advertisements do not feature many vegetables

### Students will...

- \* learn that vegetables come in many colors and that it is important to "eat a rainbow."
- \* choose a vegetable from brochures from grocery stores.
- \* create a collage showing they can sort vegetables into different colors.



# Food Experience: Taste Testing Root Vegetables Galore

Serves 12 · Prep time: 10 minutes · Cook time: None



## Ingredients:

3 radishes\* (6-10 slices each radish)

2 carrots\* (6-10 slices each carrot)

1 turnips (12-15 slices each turnip)

3 cups (24 ounces) of hummus

2 beets\* (6-10 slices each beet)

1 rutabaga (12-15 slices each rutabaga)

1 parsnip (12-15 slices each parsnip)

## Directions:

- 1) Wash hands with warm water and soap.
- 2) Wash each root vegetable well. As you cut them show the children what the vegetable looks like on the outside and inside.
- 3) Slice each vegetable thinly (the amount of slices will vary depending on size of the whole vegetable)
- 4) Place at least one slice of each root vegetable on each child's plate.
- 5) Have them taste a slice of each vegetable and discuss the size, texture, color and taste.
- 6) Serve with  $\frac{1}{4}$  cup of hummus for dipping

*Makes 12 servings*

## MATERIALS NEEDED

- Cutting board
- Knife
- 12 plates

## CHEF'S NOTES

	Snack
Fruit	
Vegetables	1/2 cup ✓
Bread/Alternative	
Meat/Alternative	1/4 cup ✓
Milk	

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP creditable recipes.



## Root Vegetables

**“I LIKE THIS”**



**“ME GUSTA”**

**“I DON’T LIKE THIS YET”**



**“NO ME GUSTA TODAVÍA”**

# Extending the Learning Experience

## Optional Supplemental Lessons

### WEEK 1

#### **DRDP 2015**

ATL-REG1, ATL-REG3  
SED1, SED3, SED4  
LLD2, PD-HLTH 2

COG4, COG9, COG10,  
COG11,  
HSS5

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#### **Root Vegetable Movement**

Recommended for the sand box area:

Have students “dig” their feet into the ground to represent root vegetables! Have students squeeze into a ball and imagine that they are a seed. Slowly, grow some “roots” by wiggling their feet into the ground and slowly standing up tall. Have them reach their arms “above ground” towards the sun to signify the leafy tops of root vegetables.

To take this activity one step further, choose three or four students to be “worms” and have them wiggle through the root vegetable plants, helping them to grow!

#### **Discovery Lab**

Place various whole root vegetables on the tables in your classroom for students to examine by measuring and comparing.

Make available various scientific tools such as: measuring cups, measuring tapes, rulers, a scale, pH strips, magnifying glasses and a tweezers.

Make available paper, pencils and crayons for students to draw their observations. Teachers can write down the student’s observation on each student’s paper or collectively on one large paper. Collectively discuss the observations.

As the activity progresses, cut a cross section of the produce and have students compare the cut pieces to the whole pieces. Encourage students to separate the parts and examine them.

### WEEK 2

#### **DRDP-2015**

LLD2, LLD3, LLD4  
PD-HLTH1

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#### **Choose the Carrot! A Memory Game**

Develop children’s memory and following skills in this fun activity. Use three small paper bowls (painted brown if possible) to represent small mounds of dirt. Arrange the bowls in a line so that they are visible to your whole class. Place a small picture of a root vegetable (or an actual vegetable) under one of the “dirt mounds”.

Tell the children to remember which dirt mound the carrot is growing in! Then quickly mix the bowls around, trying to confuse the students. After a short time, stop rotating the order of the bowls and ask the class to guess which dirt mound has the carrot inside. Try using different vegetables. Repeat a few times and encourage them to play the game on their own with their friends.

### WEEK 3

#### **DRDP-2015**

ATL-REG 1, ATL-REG7

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#### **Healthy Choices Tic-Tac-Toe**

Create a large tic-tac-toe board on a dry erase board or a chalkboard. Using your fruit and vegetable photo cards, place a photo card in each square of the tic-tac-toe board.

Choose two teams of two students- one to be the X’s and one to be the O’s. To be able to place an X or an O in the box players must be able to either recognize (or share some fact or quality about) the fruit or vegetable. If they are correct, put an X or an O in the box. The first to get three in a row wins tic-tac-toe!



# Food Experience: Candy Striped & Carrot Slaw

Serves 6 · Prep time: 10 minutes · Cook time: None



## Ingredients:

1 1/2 cup grated candy striped beets\*

1 1/2 cup grated rainbow carrots

## Dressing

1 1/2 cup plain low fat Yogurt

2 oranges, juiced and zested

2 tablespoons lemon juice

2 tablespoons chopped dill

1 teaspoon salt and pepper

\*any variety of beets can be used

## Directions:

- 1) In a bowl mix beets and carrots.
- 2) In a separate bowl mix dressing ingredients
- 3) Place ½ cup of vegetables in each child's cup with ¼ cup of yogurt dressing
- 4) Place a plate on top of the cup, and using the palm of their hand to firmly hold the plate in place. Rotate cup upside down and gently shake to dress the slaw.
- 5) Enjoy the slaw

Source: <http://www.bonappetit.com/recipes/2011/07/candy-stripe-beet-and-carrot-slaw>

*Makes 6 servings*

## MATERIALS NEEDED

- Grater
- Zester
- 2 bowls
- 6 cups
- 6 plates

## CHEF'S NOTES





# Food Experience: Carrot & Cauliflower Mash

Serves 12 · Prep time: 10 minutes · Cook time: None



## Ingredients:

- |                             |                            |
|-----------------------------|----------------------------|
| 2 cups chopped carrots      | 2 cups chopped cauliflower |
| 2 minced garlic cloves      | 1 tablespoon olive oil     |
| 1/2 cup vegetable broth     | 1 1/2 cups Greek yogurt    |
| 2 teaspoons salt and pepper |                            |

## Directions:

- 1) Preheat oven 375 degrees
- 2) Line baking sheet with parchment paper, place carrots and cauliflower and toss with garlic and olive oil. Bake for 30-40 minutes until vegetables are cooked through
- 3) Place baked vegetables in a blender with vegetable broth, salt and pepper. Pulse until well combined. Add yogurt and continue to pulse.
- 4) Serve 1/2 cup to each child

*Makes 10-12 servings*

## MATERIALS NEEDED

- Baking sheet
- Parchment paper
- Blender
- 6 plates

## CHEF'S NOTES



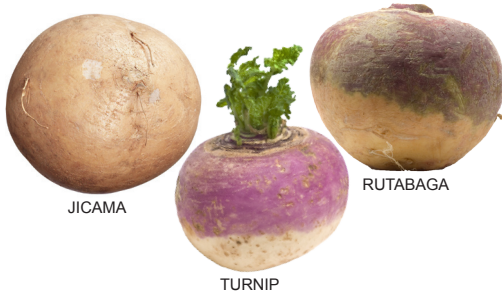
# Harvest of the Month



Network for a Healthy California

The *Harvest of the Month* featured vegetables are

## root vegetables



JICAMA

TURNIP

RUTABAGA

### Health and Learning Success Go Hand-in-Hand

Family meals can be a great time to care for the body. Take time to set the table, eat together, and share stories. Experts agree that sharing meals may help to avoid teenage smoking, alcohol/drug abuse, and depression. Use *Harvest of the Month* recipes and serving ideas for healthy ways to enjoy root vegetables.

### Produce Tips

- Select firm **jicama** that are smooth with no bruises or spots. Store in a cool, dry place for up to four months. Keep sliced jicama in a sealed plastic bag in the refrigerator for up to one week.
- Choose small- to medium-sized **turnips** that are smooth, round, and firm. Store in a cool, dry place for up to two months or in a plastic bag in the refrigerator for up to two weeks.
- Look for **rutabagas** that are heavy, smooth, round, and firm. Store in a cold, dry place for up to four months or in the refrigerator for one month.

### Healthy Serving Ideas

- Look for roots like jicama, parsnips, turnips, rutabagas, and radishes at your local market.
- Peel and slice crisp jicama. Sprinkle with chili powder for a quick snack.
- Peel and cube parsnips and add to your favorite soup.
- Sauté sliced turnips, turnip greens, and chopped onions for a flavorful dish.
- Serve mashed rutabagas instead of mashed potatoes.
- Shred radishes and add to a green salad.

### JICAMA PIÑA BREEZE

**Makes 3 servings. 1 cup per serving.**  
**Cook time:** 10 minutes

#### Ingredients:

- ½ cup canned pineapple chunks with juice, packed in 100% juice
  - ½ cup fresh jicama, peeled and cut into small pieces
  - ½ cup fresh orange, peeled and cut into small pieces
  - 2 cups 100% orange juice
1. Place all ingredients in a blender container.
  2. Blend until smooth. Pour into glasses and serve immediately.

#### Nutrition information per serving:

Calories 117, Carbohydrate 28 g, Dietary Fiber 3 g, Protein 2 g, Total Fat 0 g, Saturated Fat 0 g, Trans Fat 0 g, Cholesterol 0 mg, Sodium 5 mg

Source: *Healthy Latino Recipes Made with Love, Network for a Healthy California*, 2008.

For more recipes, visit:  
[www.cachampionsforchange.net](http://www.cachampionsforchange.net)

### Let's Get Physical!

- **At work:** Stretch with co-workers to help relax during your break.
- **At school:** Encourage your child to start a walking group during recess. They can talk while they walk!
- **With the family:** Play touch football or tag this weekend.

Gardening, doing yard work, vacuuming, sweeping – all types of physical activity count towards your daily needs!

To find out how much activity you and your family need, visit:

[www.cdc.gov/physicalactivity](http://www.cdc.gov/physicalactivity)

### Nutrition Facts

Serving Size: ½ cup raw jicama, sliced (60g)	
Calories 23	Calories from Fat 0
% Daily Value	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 2mg	0%
Total Carbohydrate 5g	2%
Dietary Fiber 3g	12%
Sugars 1g	
Protein 0g	
Vitamin A 0%	Calcium 1%
Vitamin C 20%	Iron 2%

### How Much Do I Need?

- A ½ cup of sliced jicama, turnips, or rutabagas is about one cupped handful.
- A ½ cup of most root vegetables is an excellent source of vitamin C.
- Root vegetables are rich in complex carbohydrates, or starch, which give your body energy, especially for the brain and nervous system.
- Most people should get over half of their calories from complex carbohydrates. Good sources include fruits, vegetables, and whole grains.

The amount of fruits and vegetables you need depends on your age, gender, and physical activity level. Encourage your family to try a variety of colorful fruits and vegetables every day. It will help them reach their recommended daily amounts.

### Recommended Daily Amounts of Fruits and Vegetables\*

	Kids, Ages 5-12	Teens and Adults, Ages 13 and up
<b>Males</b>	2½ - 5 cups per day	4½ - 6½ cups per day
<b>Females</b>	2½ - 5 cups per day	3½ - 5 cups per day

\*If you are active, eat the higher number of cups per day. Visit [www.mypyramid.gov](http://www.mypyramid.gov) to learn more.

### What's in Season?

Roots – like jicama, turnips, rutabagas, radishes, and parsnips – are in peak season in late spring through fall.

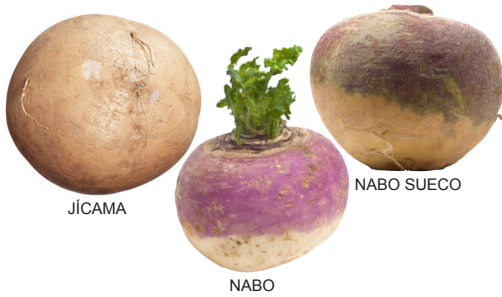
Try these other good or excellent sources of complex carbohydrates for energy: corn, dry beans, peas, and sweet potatoes.

# La Cosecha del Mes



Red para una California Saludable

Los **vegetales de raíz** son el vegetal de La Cosecha del Mes



JÍCAMA

NABO SUECO

NABO

## La Salud y el Éxito en el Aprendizaje van Mano a Mano

Las comidas familiares pueden ser un momento maravilloso para cuidar nuestro cuerpo. Tome su tiempo para poner la mesa, comer juntos y compartir historias. Los expertos están de acuerdo en que comer en familia puede ayudar a evitar que los adolescentes fumen, consuman alcohol y/o drogas y que padezcan depresión. Use las recetas de La Cosecha del Mes y las ideas para prepararlas y servir las y conocerá formas saludables de disfrutar los vegetales de raíz.

## Consejos Saludables

- Escoja **jícamas** firmes que estén lisas, sin malladuras ni manchas. Almacene la jícama en un lugar fresco y seco hasta por cuatro semanas.
- Escoja **nabos** de pequeños a medianos que estén lisos, redondos y firmes. Guárdelos en un lugar fresco y seco hasta por dos meses.
- Busque **nabos suecos** que sean pesados, lisos, redondos y firmes. Almacénelos en un lugar fresco y seco hasta por cuatro meses.

## Ideas Saludables de Preparación

- Pele y rebane la jícama. Agregue chile, sal y limón.
- Pele y corte en cubitos las chirivías y agréguelas a su sopa favorita.
- Sofría nabos rebanados, hojas de nabo y cebolla picada y tendrá un platillo sabroso.
- Sirva nabo sueco en puré en lugar de puré de papa.
- Agregue rábano rallado a la ensalada.

## BRISA DE JÍCAMA Y PIÑA

Rinde 3 porciones. 1 taza por porción.  
Tiempo de preparación: 10 minutos

### Ingredientes:

- ½ taza de jícama, pelada y en trocitos
- ½ taza de piña, enlatada en jugo 100% natural
- ½ taza de naranja, pelada y en trocitos
- 2 tazas de jugo de naranja 100% natural

1. Ponga todos los ingredientes en el vaso de la licuadora.
2. Licúe hasta que quede cremoso. Vacíe en vasos y sirva.

### Información Nutricional por Porción:

Calorías 117, Carbohidratos 28 g, Fibra Dietética 3 g, Proteínas 2 g, Grasa Total 0 g, Grasa Saturada 0 g, Grasa Trans 0 g, Colesterol 0 mg, Sodio 5 mg

Fuente: *Recetas Latinas Saludables Hechas con Amor, Red para una California Saludable, 2008.*

Para más recetas, visite: [www.campeonesdelcambio.net](http://www.campeonesdelcambio.net)

## ¡En sus Marcas, Listos...!

- **En el trabajo:** Haga ejercicios de estiramiento con sus compañeros de trabajo durante el tiempo de descanso.
- **En la escuela:** Anime a su hijo a iniciar un grupo de caminata durante el recreo.
- **Con la familia:** Jueguen fútbol o a las carreras este fin de semana.

¡Todo tipo de actividad física cuenta hacia sus requerimientos diarios!

Para saber cuanta actividad física necesitan usted y su familia, visite: [www.cdc.gov/physicalactivity](http://www.cdc.gov/physicalactivity)

## Información Nutricional

Porción: ½ taza de jícama cruda, rebanada (60g)	
Calorías 23	Calorías de Grasa 0
% Valor Diario	
Grasas 0g	0%
Grasa Saturada 0g	0%
Grasa Trans 0g	
Colesterol 0mg	0%
Sodio 2mg	0%
Carbohidratos 5g	2%
Fibra Dietética 3g	12%
Azúcares 1g	
Proteína 0g	
Vitamina A 0%	Calcio 1%
Vitamina C 20%	Hierro 2%

## ¿Cuánto Necesito?

- Una ½ taza de jícama, nabo o nabo sueco equivale a un puñado.
- Una ½ taza de la mayoría de los vegetales de raíz es una excelente fuente de vitamina C.
- Los vegetales de raíz son ricos en carbohidratos complejos o almidón, que le dan a su cuerpo energía, especialmente al cerebro y al sistema nervioso.
- La mayoría de la gente debe obtener la mitad de sus calorías de carbohidratos complejos. Los encontramos en las frutas, los vegetales y los granos integrales.

La cantidad de frutas y vegetales que necesita depende de su edad, sexo y nivel de actividad física.

## Recomendación Diaria de Frutas y Vegetales\*\*

	Niños, Edad de 5-12	Adolescentes y Adultos, Edad de 13 en adelante
<b>Hombres</b>	2½ - 5 tazas por día	4½ - 6½ tazas por día
<b>Mujeres</b>	2½ - 5 tazas por día	3½ - 5 tazas por día

\*\*Si es activo, coma el número más alto de tazas por día. Visite [www.mipiramide.gov](http://www.mipiramide.gov) para aprender más.

## ¿Qué está en Temporada?

Las raíces – como la jícama, nabos, nabos suecos, rábanos y chirivías – están en su punto desde finales de primavera hasta el otoño. Pruebe estas otras fuentes buenas o excelentes de carbohidratos complejos: camotes, elote, frijoles y chícharos.

\* Los sitios Web sólo disponibles en inglés.

# Harvest of the Month



Network for a Healthy California

## Health and Learning Success Go Hand-In-Hand

Encouraging students to try new foods through taste tests is a great classroom strategy. Create a safe environment for students to taste new fruits and vegetables. A low-pressure approach to taste testing can help students develop a sense of what they like. Incorporate *Harvest of the Month* fruits and vegetables into lesson plans and help students expand their eating horizons.

## Exploring California Root Vegetables: Taste Testing

### Getting Started:

- Partner with your school nutrition staff, local farmers' market, or grocery store to obtain produce for taste tests.

### What You Will Need (per group):

- ½ cup each of raw, peeled, and sliced jicama and turnips
- ½ cup each of cooked\* and sliced russet potatoes and rutabagas
- Printed Nutrition Facts labels for jicama, turnips, potatoes, and rutabagas\*\*

### Activity:

- Record sensory impressions by creating a Venn diagram on the board.
- Taste vegetables and note the look, texture, smell, color, and taste.
- Ask students to write a reflection or thank you letter to the farmer or school nutrition staff. Include sensory descriptions or reasons why they liked or disliked certain items.
- Examine Nutrition Facts labels for all items. Discuss how they differ nutritionally.
- Refer to *Botanical Facts* (page 2) and explain how tubers differ from roots.

\*Make arrangements to cook (steam) potatoes and rutabagas in advance.

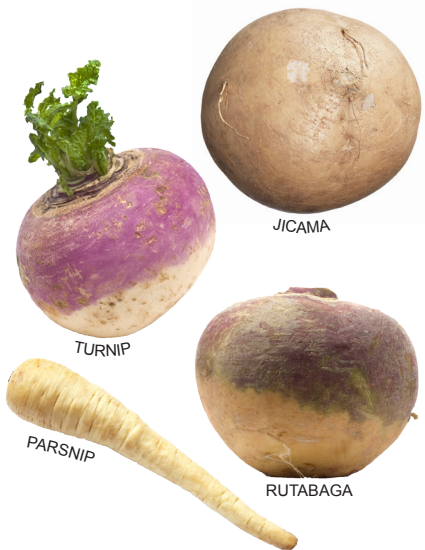
\*\*Download from the Educators' Corner of [www.harvestofthemoth.com](http://www.harvestofthemoth.com).

### For more ideas, reference:

*Kids Cook Farm-Fresh Food*, California Department of Education, 2002.



RADISH



JICAMA

TURNIP

PARSNIP

RUTABAGA

## Nutrition Facts

Serving Size: ½ cup raw jicama, sliced (60g)

Calories 23      Calories from Fat 0

% Daily Value

Total Fat 0g      0%

Saturated Fat 0g      0%

Trans Fat 0g

Cholesterol 0mg      0%

Sodium 2mg      0%

Total Carbohydrate 5g      2%

Dietary Fiber 3g      12%

Sugars 1g

Protein 0g

Vitamin A 0%      Calcium 1%

Vitamin C 20%      Iron 2%

## Cooking in Class: Jicama Cucumber Salad

### Ingredients:

Makes 24 tastes at ¼ cup each

- 1 pound jicama, peeled and cut into ½-inch cubes
- 2 medium cucumbers, quartered, and sliced ¼-inch thick
- 1 fresh lime
- 3 teaspoons chili powder
- Small plates and forks

- Combine jicama and cucumbers in a large bowl.
- Squeeze lime juice over salad and mix well.
- Sprinkle seasoning over salad and mix well. Serve immediately.

Source: Hawthorne School District, 2009.

For nutrition information, visit: [www.harvestofthemoth.com](http://www.harvestofthemoth.com).

## Reasons to Eat Root Vegetables

- A ½ cup of most root vegetables provides an excellent source of vitamin C.
- A ½ cup of sliced jicama is a good source of fiber.
- Complex carbohydrates\* (commonly referred to as “starches”) are a key nutrient in root vegetables.

\*Learn about complex carbohydrates on page 2.

### Champion Sources of Complex Carbohydrates\*

- Corn
- Dry beans
- Peas
- Sweet potatoes

\*Champion foods include those in which most of their calories come from complex carbohydrates.

Source: USDA Nutrient Database

### For more information, reference:

*Wellness Foods A to Z* by Sheldon Margen, Rebus, 2002.

**ROOT  
VEGETABLES**

## What Are Complex Carbohydrates?

- “Starchy vegetables” provide calories in the form of complex carbohydrates. They also provide vitamins, minerals, and fiber.
- The primary function of carbohydrates is to provide energy for the body, especially the brain and nervous system.
- Most people should get 55-60%, or over half, of their total calories from carbohydrates, preferably starches and naturally occurring sugars.
- Complex carbohydrates are made of polysaccharides (long chains of sugar units) that come from plant-based foods.
- The body uses enzymes to break down complex carbohydrates like starch into glucose, which the body then uses for energy.
- In plants, starch is produced by photosynthesis. Tubers store the highest quantities of starch of all vegetables.

Source: *Understanding Normal and Clinical Nutrition* by Catalog, Whitney, and Rolfe, Sixth Edition, 2002, pp. 97, 114-117.

For more information, visit:  
[www.fruitsandveggiesmatter.gov](http://www.fruitsandveggiesmatter.gov)

## How Much Do I Need?

A ½ cup of sliced root vegetables is about one cupped handful. Root vegetables come in a variety of colors and most can be eaten raw or cooked. The amount of fruits and vegetables you need depends on your age, gender, and physical activity level. Remind students to eat a variety of colorful fruits and vegetables throughout the day. It will help them reach their recommended daily amounts.

### Recommended Daily Amounts of Fruits and Vegetables\*

	Kids, Ages 5-12	Teens and Adults, Ages 13 and up
<b>Males</b>	2½ - 5 cups per day	4½ - 6½ cups per day
<b>Females</b>	2½ - 5 cups per day	3½ - 5 cups per day

\*If you are active, eat the higher number of cups per day. Visit [www.choosemyplate.gov](http://www.choosemyplate.gov) to learn more.

## How Do Root Vegetables Grow?

Root vegetables are cool-weather crops. Roots such as beets, carrots, radishes, rutabagas, and turnips can be planted in early spring and late summer for two crops. Tubers are a single-crop vegetable that can take up to one year to harvest. Roots need to be thinned so they have enough room to develop properly. Tubers do not require thinning, but they do need plenty of space and soil covering the underground vegetables.

For a chart with information about how to plant and grow root vegetables, refer to *Root Vegetables Botanical Images* (in the Educators' Corner) on [www.harvestofthemonth.com](http://www.harvestofthemonth.com).

For more information, visit:  
[www.ncsu.edu/sustainable/profiles/pppotato.html](http://www.ncsu.edu/sustainable/profiles/pppotato.html)  
[www.urbanext.illinois.edu/veggies/potato1.html](http://www.urbanext.illinois.edu/veggies/potato1.html)

## Botanical Facts

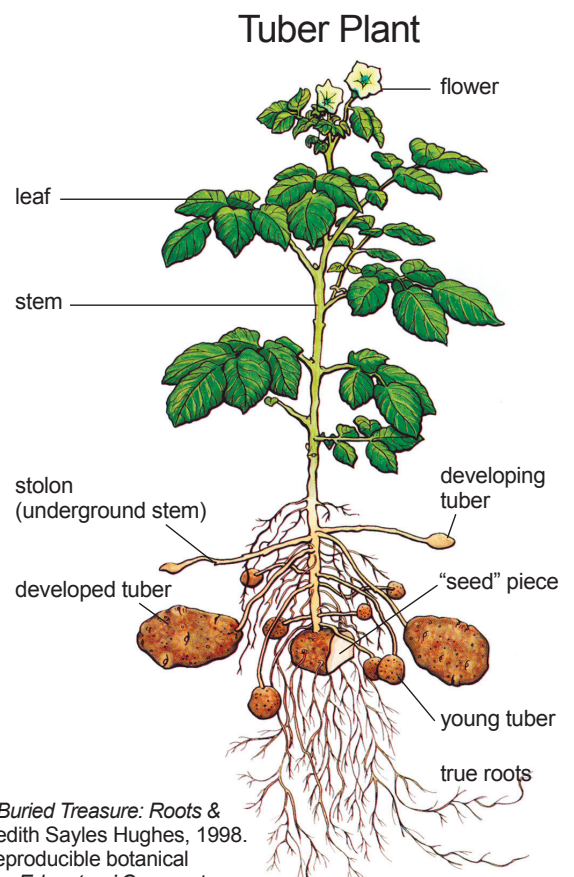
Root vegetables are the roots of plants that are eaten as vegetables. These roots grow into the ground from the base of the plant stem. They anchor the plant, absorb water and nutrients, and store energy. Root vegetables are divided into six subgroups: Tap Roots, Tuberous Roots, Corms, Rhizomes, Tubers, and Bulbs.

Tubers differ from other roots in that they are swollen underground stems, capable of producing new plants and storing energy for the parent plant. If the parent plant dies, the underground tubers can create new plants. Other roots can take nutrients from the ground, but cannot store energy or use it for reproduction. So while every tuber is a root vegetable, not all roots are tubers.\*

Subgroup	Varieties
Tubers	Potato, sunchoke, yam
Tap Roots	Beet, carrot, cassava, jicama, parsnip, radish, rutabaga, turnip
Tuberous Roots	Sweet potato, yucca
Corms	Celeriac, eddo, taro, water chestnut
Rhizomes	Arrowroot, galangal, ginger, ginseng, lotus root, turmeric
Bulbs	Garlic, onion, shallot

\*Refer to *Carrots*, *Potatoes*, and *Sweet Potatoes* newsletters for more information about root vegetable varieties.

For more information, visit:  
<http://aggie-horticulture.tamu.edu/extension/specialty>



Adapted from: *Buried Treasure: Roots & Tubers* by Meredith Sayles Hughes, 1998. To download reproducible botanical images, visit the *Educators' Corner* at [www.harvestofthemonth.com](http://www.harvestofthemonth.com).

## School Garden: To Dig or Not to Dig?

If your school has a garden, here is an activity you may want to implement. Look for donations to cover the cost of seeds, tools, irrigation systems, electric pumps, and any salary incurred by garden educators or others.

Demonstrate the importance of planting in loosened soil. In compacted or dense soil, there is less room for air, making it difficult for water to drain.

### Materials:

- 20 root seeds of same variety (e.g., turnips, parsnips)
- 4' x 8' unprepared garden area (i.e., soil is hard)
- String
- Markers
- Spading forks

### Student Activity:

- Divide garden area in half using string.
- Label one side "Bed A." Use forks to loosen soil to six inches deep.
- Label the other side "Bed B." Leave it untouched.
- Plant equal number of seeds in Beds A and B. Record predictions about growth and harvesting in a journal.
- Harvest mature plants and taste the edible parts.
- Write an analysis of which bed was more suitable for plant growth and why. Compare it to original predictions. Complete *Student Sleuths* #5.

**Adapted from:** *The Growing Classroom: Garden-Based Science* by Roberta Jaffe and Gary Appel, Addison Publishing Company, 1990.

## Home Grown Facts

- Jicama is not commercially grown anywhere in the United States.
- California leads the nation in production of Daikon radishes.
- Turnips are produced mainly as a small (approximately 400 acres) commercial crop in Kern and Imperial counties.
- In California, parsnips are grown mainly in home gardens.



**Source:** [www.agcensus.usda.gov/Publications/2007/Full\\_Report/Volume\\_1,\\_Chapter\\_1\\_State\\_Level/California/st06\\_1\\_034\\_034.pdf](http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_State_Level/California/st06_1_034_034.pdf)

### Student Activity:

California imports produce from other states or countries. Locally grown foods, especially fruits and vegetables, are likely to be fresher and taste better than foods shipped from out-of-state.

- Find more information about farmers' markets and local growers near you by visiting [www.ams.usda.gov](http://www.ams.usda.gov). (Select "Wholesale and Farmers Markets" under "Browse by Subject.") Or, visit [www.localharvest.org](http://www.localharvest.org).
- At your local market, ask the produce manager where the store buys its produce.

**For more information, visit:**  
[www.cdfa.ca.gov](http://www.cdfa.ca.gov)

## Student Champions

- Form a Nutrition Advisory Council to promote nutrition and school meals to student peers.
- Collaborate with school nutrition staff to create a taste testing event, make seasonal produce suggestions, or develop a standardized menu that complies with USDA school meal nutrition guidelines.



**For more information, visit:**

[www.calsna.org/NAC/NAC.asp](http://www.calsna.org/NAC/NAC.asp)  
[www.fns.usda.gov/cnd/menu/menu\\_planning.doc](http://www.fns.usda.gov/cnd/menu/menu_planning.doc)

## Student Sleuths

- 1 Complex carbohydrates, like those found in starch, provide the body with longer releasing energy. How does this differ from the energy provided by simple carbohydrates?
- 2 What is a root? What is a tuber? List examples of each.
- 3 Sweet potatoes (a root) are a good source of potassium. (USDA defines a "good source" as supplying at least 10% daily value of a nutrient per serving.) List three other fruits or vegetables that are good sources of potassium.
- 4 What is the difference between annual and perennial plants?
- 5 How do soils become compacted? What happens when the soil becomes compacted? How can we avoid compacting our garden beds?

**For information, visit:**

[www.fruitsandveggiesmatter.gov](http://www.fruitsandveggiesmatter.gov)  
[www.nal.usda.gov/fnic/foodcomp/search](http://www.nal.usda.gov/fnic/foodcomp/search)  
[www.extension.umn.edu/distribution/cropsystems/components/3115s01.html](http://www.extension.umn.edu/distribution/cropsystems/components/3115s01.html)  
[www.garden.org](http://www.garden.org)

## A Slice of Root Vegetable History

- Root vegetables were an essential part of the diet during the early evolution of humankind (about five million years ago).
- Turnip fossils were found in caves in China dating back thousands of years.
- Jicama was brought to the Philippines and Malaysia by the Spanish in the 1600s.
- Rutabagas are believed to have originated in Bohemia in the 1700s as a cross between the turnip and wild cabbage.
- American colonists relied heavily on root vegetables because they could be stored for months in the harsh New England winters.

**For more information, visit:**

[www.idph.state.ia.us/pickabetersnack/common/pdf/factsheets/potatoes.pdf](http://www.idph.state.ia.us/pickabetersnack/common/pdf/factsheets/potatoes.pdf)  
[www.ba.ars.usda.gov/hb66/078jicama.pdf](http://www.ba.ars.usda.gov/hb66/078jicama.pdf)

## Adventurous Activities

### Math Analysis

Compare and contrast the content of predominant nutrients – including vitamins and minerals – in different root vegetable varieties (e.g., jicama, parsnips, rutabagas, turnips, yams, sweet potatoes, potatoes).

#### Helpful Hint:

Complete in conjunction with *Taste Testing* activity on page 1.

For information, visit:

[www.nal.usda.gov/fnic/foodcomp/search](http://www.nal.usda.gov/fnic/foodcomp/search)

### Cafeteria Connections

- Examine the school lunch menu. List the different choices of root vegetables. Have students design posters promoting the nutritional significance of a root vegetable of their choice. Display posters in cafeteria.
- Ask students to select which root vegetables they will try. Record feedback and submit summary to the school nutrition staff with recommendations.
- Promote lunch time as a way for students to obtain maximum nutrition and help meet their daily fruit and vegetable needs. Design promotional messages around fruits and vegetables served that week.

For more ideas, visit:

[www.schoolnutrition.org](http://www.schoolnutrition.org)



### Activities & Resources Galore

Visit the Educators' Corner online for more resources:

- Cooking in Class (recipe analyses, cooking tips)
- Reasons to Eat (Nutrition Glossary)
- How Does It Grow (botanical images, growing tips)
- Student Sleuths (Answer Key)
- Adventurous Activities
- Literature Links (book lists)
- Links to California Content Standards (all grades)

All available at [www.harvestofthemonth.com](http://www.harvestofthemonth.com).

## Just the Facts

- Only the roots of jicama plants are edible.
- Turnips are members of the mustard family.
- The name *rutabaga* comes from the Swedish word *rotbagga*, meaning "thick root."
- The word *Daikon* comes from two Asian words: *dai-* (large) and *kon* (root).

For more information, visit:

[www.uga.edu/rootandtubercrops](http://www.uga.edu/rootandtubercrops)

[www.panen.psu.edu/s.n.a.c](http://www.panen.psu.edu/s.n.a.c)

## Literature Links

- Research the history of turnips and rutabagas in Irish, Scandinavian, and Russian cultures.
- Talk with a local dietitian to identify valid resources for nutrition information. Discuss popular beliefs about carbohydrates and resolve myths and facts.
- If allowed, conduct a taste test in a school library. Have the librarian present literature, such as a book related to food and/or nutrition.

For a list of book ideas, visit:

[www.harvestofthemonth.com](http://www.harvestofthemonth.com)

## Physical Activity Corner

Form a "walking school bus" to promote physical activity. For ideas on how to start a walking school bus, visit [www.walkingschoolbus.org](http://www.walkingschoolbus.org). A healthy lifestyle consists not only of a healthy overall diet, but also plenty of physical activity. The recommended amount of physical activity for children is 60 minutes on most days and 30 minutes for adults.

For more information, visit:

[www.cawalktoschool.com](http://www.cawalktoschool.com)

